

IN THE CLAIMS:

Claims 15 and 17 have been amended herein. Please note that all claims currently pending and under consideration in the referenced application are shown below, in clean form, for clarity. Please enter these claims as amended. Also attached is a version with markings to show changes made to the claims.

1. (Previously Three Times Amended) An apparatus for routing interconnections among bond pads on a semiconductor die, comprising:
a sheet-like, nonconductive structure having a first surface, and a second surface for attachment to said semiconductor die; and
a plurality of electrically conductive discrete pads attached to said first surface, the plurality of electrically conductive discrete pads each having an electrical connect portion and an electrically isolated portion comprising a portion facing said first surface and a periphery defined thereabout.

2. (Previously Amended) The apparatus of claim 1, further comprising at least one conductor extending between at least two of said plurality of electrically conductive discrete pads, said at least one conductor including at least a portion external to said sheet-like nonconductive structure.

3. The apparatus of claim 1, further comprising at least one conductor extending from at least one bond pad of said die to at least one of said plurality of electrically conductive discrete pads.

4. (Previously Amended) The apparatus of claim 1, wherein said nonconductive structure is comprised of a dielectric film or sheet.

15. (Three Times Amended) A semiconductor device, comprising:
a die including a plurality of bond pads disposed on a surface thereof;
an adapter having a first plurality of discrete electrical contacts on a first surface thereof, each electrically connected to one of said plurality of bond pads, and a second plurality of discrete electrical contacts on a second surface thereof, each of said second plurality of discrete electrical contacts having an electrical connection portion and an electrically isolated portion comprising a portion facing said second surface of said adapter and a periphery defined thereabout, at least some of said second plurality of discrete electrical contacts in electrical communication with said first plurality of discrete electrical contacts; and
a plurality of conductive bumps, each extending from one of said second plurality of discrete electrical contacts.

16. (Previously Amended) The semiconductor device of claim 15, further comprising a protective coating over at least a portion of said die, said plurality of conductive bumps being at least partially exposed through said protective coating.

17. (Three Times Amended) A semiconductor device, comprising:
a die including a plurality of bond pads disposed on a first surface thereof;
an adapter having a first plurality of discrete electrical contacts on a first surface thereof, each electrically connected to one of said plurality of bond pads, and a second plurality of discrete electrical contacts on a second surface thereof, at least some of said second plurality of discrete electrical contacts being horizontally remote from at least some of the plurality of bond pads disposed on the first surface of the die, the at least some of said second plurality of discrete electrical contacts having an electrically isolated portion comprising a portion facing said second surface of said adapter and a periphery defined thereabout, and at least some other of said second plurality of discrete electrical contacts being electrically connected to said first plurality of discrete electrical contacts.

18. The semiconductor device of claim 15, wherein the adapter comprises a material having a coefficient of thermal expansion substantially matching a coefficient of thermal expansion of said die.

19. (Previously Amended) The semiconductor device of claim 15, wherein the adapter comprises at least one conductive via extending between at least one of the first plurality of discrete electrical contacts and at least one of the at least some other of said second plurality of discrete electrical contacts.

20. (Previously Amended) The semiconductor device of claim 19, wherein at least one of the second plurality of discrete electrical contacts is electrically isolated from the plurality of bond pads disposed on the first surface of the die.

21. The semiconductor device of claim 15, wherein the adapter is adhesively secured to the die.

22. The semiconductor device of claim 17, wherein the adapter is adhesively secured to the die.

23. (Previously Amended) The semiconductor device of claim 17, further comprising a plurality of conductive vias extending through said adapter electrically connecting said first plurality of discrete electrical contacts and the at least some other of the second plurality of discrete electrical contacts.

24. The semiconductor device of claim 17, wherein the adapter comprises a tape-like structure.

25. The semiconductor device of claim 17, wherein at least one of the second plurality of discrete electrical contacts is electrically interconnected with a second die.